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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,052	04/13/2004	Nir Corse	CM05224EI	4087

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EXAMINER

GOODLEY, JAMES E

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/823,052	CORSE ET AL.	
	Examiner	Art Unit	
	James E. Goodley	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/13/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Merenda (US 5942950).

Regarding **claims 1-3 and 12**, Fig. 6, lines 34-37 of column 5 and lines 7-22 of column 6 of Merenda shows a wireless communication terminal comprising a voltage controlled oscillator comprising a transistor for producing power gain [70], a first variable capacitance [series combination of 43 and 52] operably coupled to the transistor, providing a variable capacitance value based on a voltage applied on a steering line [V_{tune}] and a feedback network comprising a resonator [micro-strips 42 and 44 and feedback capacitor 82] operably coupled to an output of the transistor, for feeding power back to an input of the transistor to sustain oscillations. Fig. 5 and lines 48-65 of column 5 of Merenda shows the voltage controlled oscillator including a second variable

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capacitance [60] operably coupled to receive a control voltage $[V_{\text{tune}}]$ from the steering line and is located between the resonator [42 and 44] and the transistor [such as when the resonator output is coupled to the base of the transistor, as in Fig. 6].

Regarding **claim 4**, Merenda teaches in lines 9-11 of column 7, an increase in the loaded-Q value of the voltage controlled oscillator.

Regarding **claim 5**, Merenda shows the device of claim 1, except wherein the second variable capacitance is operably configured such that, when a low tuning voltage is applied, a gain margin of the voltage controlled oscillator is increased to a level sufficient to provide oscillations. However, it is inherent that lowering the input voltage to an electrical system will always increase the gain margin of that system.

Regarding **claim 8**, Merenda shows in Fig. 5 the device of claim 1, further comprising an inductor [62] located on the steering line between the second variable capacitance [60], except “and a digital-to-analogue converter, such that an independent voltage can be applied from the digital-to-analogue converter to the second variable capacitance”. However, it is inherent that the signal that is inputted to the oscillator as a tuning voltage must be in analog form. Furthermore, the independent voltage (or input tuning voltage) $[V_{\text{tune}}]$ is shown in the figure as being applied to the second variable capacitance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merenda in view of DaSilva (US 4939481).

Regarding **claim 6**, Merenda shows the device of claim 1, except "wherein the second variable capacitance provides a capacitance in a range of about 12 pF to about 3pF". However, lines 47-50 of column 2 of DaSilva teach a voltage controlled oscillator utilizing a varactor having a capacitance of 6pF.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Merenda by DaSilva to include using a variable capacitance capable of reaching a value of 6pF, for the purpose of allowing a broader range of possible oscillating frequencies.

Regarding **claim 7**, Merenda shows the device of claim 1, except "wherein the operation there is applied alternatively to the steering line a low tuning voltage in a range of about 0V to about 2.5V and a high tuning voltage in a range of about 2.5V to about 4.5 V". However, lines 61-64 of column 7 of DaSilva teaches an LC resonant circuit with a tuning voltage varying from 3 volts to 25 volts - thus covering the range of the low and high tuning voltages claimed in the application.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Merenda by DaSilva to include a tuning voltage ranging from about 2.5V to about 4.5V for the purpose of extending the range of possible oscillating frequencies.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merenda.

Regarding **claim 9**, Merenda shows the device of claim 1, except “wherein the voltage controlled oscillator comprises a Colpitts configured voltage controlled oscillator”.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Merenda to include a Colpitts configured voltage controlled oscillator for the purpose of improving wave purity.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merenda in view of Grube et al (US 5987331) in further view of Eban (US 6218909).

Regarding **claim 10**, Merenda shows the device of claim 1, except “wherein the wireless communication terminal is operable according to operational standards selected from TETRA and GSM standards and is capable of generating radio frequency signals across two distinct operational frequency bands”. However, Grube teaches in lines 18-21 of column 3 a wireless communication terminal that is operable according GSM standards. Furthermore, Eban teaches in lines 59-64 of column 1 a voltage controlled oscillator capable of generating radio frequency signals across two distinct operational frequency bands.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Merenda by the teachings of Grube and Eban to include a multiple frequency band voltage controlled oscillator, wherein the wireless communication terminal is operable according to GSM standards for the

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purpose of maintaining a reasonable tuning/modulation factor within each of the frequency bands and for having the flexibility to be used in GSM subscriber territory.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merenda in view of Grube et al (US 5987331).

Regarding **claim 11**, Merenda shows the device of claim 1, except “wherein the wireless communication terminal comprises a device selected from a portable radio, a mobile radio, mobile telephone, a personal digital assistant, and a wireless capable laptop computer”. However, lines 18-21 of column 3 of Grube teaches a mobile telephone being used as a wireless communication terminal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Merenda by the teachings of Grube by using a mobile telephone for the purpose of achieving better vocal clarity over mobile telephone connections.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Paratek (WO 02/09269 A1) discloses a voltage controlled oscillator including an active element, tunable dielectric resonator, and tunable bypass.

Saitama (JP 100065444A) discloses a voltage controlled oscillator with a tunable dielectric resonator.


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Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James E. Goodley whose telephone number is 571-272-2429. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ZANDRA V. SMITH
PRIMARY EXAMINER